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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,336	09/11/2003	Walter A. Zuluaga	CLAR 0131 PUS	5981
22045 7590 01/10/2007 BROOKS KUSHMAN P.C. 1000 TOWN CENTER TWENTY-SECOND FLOOR SOUTHFIELD, MI 48075			EXAMINER CHAU, COREY P	
			ART UNIT	PAPER NUMBER
			2615	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
.3 MONTHS		01/10/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/660,336

Applicant(s)

ZULUAGA

Examiner

Corey P. Chau

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/19/2003
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5 and 7-24 rejected under 35 U.S.C. 102(e) as being anticipated by  
USPAPN 20050018862 to Fischer.

3. Regarding Claim 1, Fisher discloses a system for preventing acoustic shock comprising:

a variable attenuator attenuating an input signal by a variable attenuation amount to produce an output signal (Figs. 2-6 and 8-11; pages 5-6; paragraphs 0089-0092; page 7, paragraphs 0101-0102; page 8, paragraphs 0135-0139);

a frequency analyzer operative to convert a time-windowed portion of the input signal into a plurality of frequency bins, each frequency bin expressing the energy of the time-windowed portion of the input signal over a particular frequency range (Figs. 2-6 and 8-11; page 6, paragraph 0093);

an energy calculator which determines a relative energy signal having an element corresponding to each frequency bin, each element of the relative energy signal based on energy magnitude in the corresponding frequency bin relative to a total

Art Unit: 2615

energy of the time-windowed portion of the input signal (Figs. 2-6 and 8-11; page 6, paragraphs 0093-0096);

a plurality of signal detectors, each detector in communication with the energy calculator, each signal detector generating a detection signal for modifying the variable attenuation amount based on the relative energy signal, at least one of the detection signals comprising a vector of attenuation elements, each attenuation element in the vector of attenuation elements corresponding to one of the frequency bins (Figs. 2-6 and 8-11; pages 3-4; paragraphs 0062-0063; page 6, paragraphs 0093-0099); and

attenuation logic in communication with the variable attenuator and the plurality of signal detectors, the attenuation logic determining an attenuation value signal controlling the variable attenuation amount based on the plurality of detection signals (Figs. 2-6 and 8-11; pages 5-6; paragraphs 0089-0092; page 7, paragraphs 0101-0102; page 8, paragraphs 0135-0139).

4. Regarding Claim 2, Fisher discloses at least one of the signal detection signals, when asserted, inhibits attenuation by the variable attenuator (Figs. 2-6 and 8-11; pages 5-6; paragraphs 0089-0092; page 7, paragraphs 0101-0102; page 8, paragraphs 0135-0139).

5. Regarding Claim 3, Fisher discloses a difference calculator which calculates a difference signal based on a difference in energy between each pair of adjacent frequency bins; a general tone detector as one of the plurality of signal detectors, the general tone detector in communication with the difference calculator, the tone detector

Art Unit: 2615

generating a general tone detection signal based on the relative energy signal and on the difference signal (Figs. 2-6 and 8-11; pages 6-7, paragraphs 0093-0101).

6. Regarding Claim 4, Fisher discloses the general tone detection signal is one of the at least one detection signal comprising a vector of attenuation elements, the general tone detector generating an assertion for each of the general tone detection signal elements if that particular element has a corresponding difference signal element exceeding a difference threshold and a corresponding relative energy signal element less than a relative energy threshold (Figs. 2-6 and 8-11; pages 6-7, paragraphs 0093-0101).

7. Regarding Claim 5, Fisher discloses a time averaging filter averaging the difference in energy between at least one of pair of adjacent frequency bins (Figs. 2-6 and 8-11; pages 6-7, paragraphs 0093-0101).

8. Regarding Claim 7, Fisher discloses the plurality of signal detectors comprises a select tone detector generating a select tone detection signal based on at least one element of the relative energy signal exceeding a preset threshold, each of the at least one relative energy signal element corresponding to a known select tone frequency (Figs. 2-6 and 8-11; pages 2-3, paragraphs 0052-0053; page 4, paragraphs 0067-0079; pages 6-7, paragraphs 0093-0101).

9. Regarding Claim 8, Fisher discloses the select tone detector selects at least one from a set including at least one dial tone and at least one ring tone (Figs. 2-6 and 8-11; pages 2-3, paragraphs 0052-0053; page 4, paragraphs 0067-0079; pages 6-7, paragraphs 0093-0101).

10. Regarding Claim 9, Fisher discloses the attenuation logic scales each attenuation element of at least one of the detection signals comprising a vector of attenuation elements (Figs. 2-6 and 8-11; pages 5-6; paragraphs 0089-0092; page 7, paragraphs 0101-0102; page 8, paragraphs 0135-0139).
11. Regarding Claim 10, Fisher discloses the attenuation logic implements a spreading filter across the attenuation elements of at least one of the detection signals comprising a vector of attenuation elements (Figs. 2-6 and 8-11; pages 5-6; paragraphs 0089-0092; page 7, paragraphs 0101-0102; page 8, paragraphs 0135-0139).
12. Regarding Claim 11, Fisher discloses a noise canceller for cancelling noise in the output signal (Figs. 2-6 and 8-11).
13. Regarding Claim 12, Fisher discloses a compressor for amplitude compression of the output signal (Figs. 2-6 and 8-11).
14. Regarding Claim 13, Fisher discloses the attenuation value signal comprises a vector of attenuation elements, each attenuation element corresponding with one of the frequency bins (Figs. 2-6 and 8-11; pages 5-6; paragraphs 0089-0092; page 7, paragraphs 0101-0102; page 8, paragraphs 0135-0139).
15. Claim 14 is essentially similar to Claim 1 and is rejected for the reasons stated above apropos to Claim 1.
16. Claim 15 is essentially similar to Claim 3 and is rejected for the reasons stated above apropos to Claim 3.
17. Regarding Claim 16, Fisher discloses the value of each general tone detection element is a logical one if the corresponding difference element has a value greater

Art Unit: 2615

than a difference threshold and if the corresponding relative energy element has a value less than a relative energy threshold (Figs. 2-6 and 8-11; pages 2-3, paragraphs 0052-0053; page 4, paragraphs 0067-0079; pages 6-7, paragraphs 0093-0101).

18. Claim 17 is essentially similar to Claim 6 and is rejected for the reasons stated above apropos to Claim 6.

19. Claim 18 is essentially similar to Claim 7 and is rejected for the reasons stated above apropos to Claim 7.

20. Claim 19 is essentially similar to Claim 8 and is rejected for the reasons stated above apropos to Claim 8.

21. Claim 20 is essentially similar to Claim 8 and is rejected for the reasons stated above apropos to Claim 8.

22. Regarding Claim 21, Fisher discloses combining the plurality of detection signals comprises decreasing attenuation if a select tone is detected (Figs. 2-6 and 8-11; pages 2-3, paragraphs 0052-0053; page 4, paragraphs 0067-0079; pages 5-6; paragraphs 0089-009; pages 6-7, paragraphs 0093-0102; page 8, paragraphs 0135-0139).

23. Claim 22 is essentially similar to Claim 10 and is rejected for the reasons stated above apropos to Claim 10.

24. Claim 23 is essentially similar to Claim 11 and is rejected for the reasons stated above apropos to Claim 11.

25. Claim 24 is essentially similar to Claim 12 and is rejected for the reasons stated above apropos to Claim 12.

***Claim Rejections - 35 USC § 103***

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

27. Claims 6 and 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPAPN 20050018862 to Fischer in view of "Soundshield", <http://www.polaris.com.au/soundshield/html> (hereafter as Soundshield).

28. Regarding Claim 6, Fisher discloses detecting the presence of one or more shrieks within an audible frequency range of said audio signal, wherein the shrieks can be occasionally, intense, unwanted signals accidentally occur within the telephone network (Figs. 1; page 1, paragraph 0002), but only generally; no specific hardware or software is taught. Therefore it would have been obvious to one having ordinary skill in the art to seek known shrieks. Soundshield for example, disclose an acoustic shriek is an unexpected high pitched tone (HPT) or other noise (loud or soft) that may occur in telephone networks. Examples of acoustic shrieks are incorrectly dialed fax machines, maliciously generated noises such as screaming or blowing a whistle down the line, feedback or oscillations between a cordless phone and its base station, faults within the telephone line, or even callers dropping their handset on to a desktop. It would have



Art Unit: 2615

been obvious to one having ordinary skill in the art to detect the presence of known shrieks, such as that disclosed in Soundshield. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to modify Fisher with the teaching of Soundshield to detect the presence of one or more shrieks within an audible frequency range of said audio signal, wherein the shrieks are from are incorrectly dialed fax machines, maliciously generated noises such as screaming or blowing a whistle down the line, feedback or oscillations between a cordless phone and its base station, faults within the telephone line, or even callers dropping their handset on to a desktop (i.e. the plurality of signal detectors comprises a fax/modem detector generating a fax/modem detection signal based on any element in a subset of the relative energy signal exceeding a preset threshold).

29. Claim 25 is essentially similar to Claims 1, 3, and 6 and is rejected for the reasons stated above apropos to Claims 1, 3, and 6.

30. Regarding Claim 26, Fisher discloses the select tone signal is used to block attenuation otherwise caused by at least one of the general tone signal and the fax/modem signal (Figs. 2-6 and 8-11; pages 2-3, paragraphs 0052-0053; page 4, paragraphs 0067-0079; pages 5-6; paragraphs 0089-009; pages 6-7, paragraphs 0093-0102; page 8, paragraphs 0135-0139).

31. Regarding Claim 27, Fisher discloses the general tone signal increases attenuation if, for a given frequency, the difference signal is above a difference threshold (Figs. 2-6 and 8-11; pages 2-3, paragraphs 0052-0053; page 4, paragraphs

0067-0079; pages 5-6; paragraphs 0089-009; pages 6-7, paragraphs 0093-0102; page 8, paragraphs 0135-0139).

32. Regarding Claim 28, Fisher discloses the general tone signal increases attenuation if, for a given frequency, the relative energy signal is below a difference threshold (Figs. 2-6 and 8-11; pages 2-3, paragraphs 0052-0053; page 4, paragraphs 0067-0079; pages 5-6; paragraphs 0089-009; pages 6-7, paragraphs 0093-0102; page 8, paragraphs 0135-0139).

33. Claim 29 is essentially similar to Claims 1, 3, 6, and 8 and is rejected for the reasons stated above apropos to Claims 1, 3, 6, and 8.

### ***Conclusion***

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 6834108 to Schmidt discloses a method for improving acoustic noise attenuation in hand-free devices.

USPN 5550924 to Helf et al discloses a reduction of background noise for speech enhancement.

USPAPN 2005/0031061 to Ojard et al discloses a method for whitening colored noise in a communication system.

USPN 6785382 to McLaughlin et al discloses system and method for controlling a filter to enhance speakerphone performance.


Art Unit: 2615

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey P. Chau whose telephone number is (571)272-7514. The examiner can normally be reached on Monday - Friday 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on (571)272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

January 7, 2007  
CPC

  
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